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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,629

12/22/2006

Hubert Bischof

3651

5669

278

7590

03/02/2009

MICHAEL J. STRIKER
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EXAMINER

GONZALEZ QUINONE, JOSE A

ART UNIT

PAPER NUMBER

4113

MAIL DATE

DELIVERY MODE

03/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,629	Applicant(s) BISCHOF ET AL.	
	Examiner JOSE A. GONZALEZ QUINONES	Art Unit 4113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20061114</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on November 14, 2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because this is not a single paragraph, as required by MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (5,231,324) in view of Kikuchi et al. (6,236,583), Kirschbaum (4,476,422) and Pleiss (4,675,591).

As to **claim 1**, Kawamura et al. disclose a three phase six pole armature winding which comprising multi-strand stator as shown in figure 2; each pole winding, in each phase comprises q number of coils; armature winding has a first coil arrangement in which one coil sides of each pole winding in a phase following a first phase shifted from one another by an electrical angle of 60 degree are laid in the slots between the inner most coil sides in three poles in a first phase shifted from one another by an electrical angle of 360 degrees, a second coil arrangement applied to a third phase and its subsequent phase (Colum 5, Line 10).

Applicant refer in a three phase $m=3$, which means that the offset first coil and the second coil is 60 degree.

Art Unit: 4113

However Kawamura et al. fails to disclose first coil and second coil with coil sides contained in grooves that are spaced apart from one another by 180 degree and has a particular number of turn.

Kikuchi et al. discloses arrangement of coils using concentrated coil windings. Herein, the coils are arranged in the order U, V, W, U', V', W', U, V, W, U', V', W'. Due to this arrangement of coils, as shown in FIG. 14, the coil U and coil U, coil V and coil V, and coil W and coil W of the stator winding A are respectively arranged at intervals of 180 degrees, and the coil U' and coil U', coil V' and coil V', and coil W' and coil W' of the stator winding B are respectively arranged at intervals of 180 degrees (Column 7, Line 23).

Kirschbaum discloses a first coil in each of said coil groups has a number of turns which differs from the number of turns of the other coils (Claim 1).

Pleiss discloses a second set of three winding 16" which are each defined by 3 coil units. The first coil unit 9' is wound with the dual coils, having opposite coil sides 17 and 18 spaced by a span of 10 stator slots. Thus, the one side is located in slot 1 and the second side is located in slot 12. A similar but somewhat shorter span coil unit 9" has its sides located in slots 2 and 11 while the third coil unit 9" of phase A winding group 16 has its sides located in slots 3 and 10. A second group 19 of double-wire coil units 9 is similarly formed and inserted in spaced 180 degrees from the first coil group. The corresponding coil sides are located in slots 19, 20, 21 and 28, 29, 30

Art Unit: 4113

Since Kawamura et al., Kikuchi et al., Kirschbaum and Pleiss are from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the other.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kawamura et al. by use first coil and second coil with coil sides contained in grooves that are spaced apart from one another by 180 degree and has a particular number of turn as taught by Kikuchi et al., Kirschbaum, and Pleiss to provide different number of turn and a compact stator winding to meet specification and a system operation with maximum efficiency of winding connections to reduce high frequency leakage current which generate noise on motor.

As to **claim 4**, Kawamura et al. disclose a three phase six pole armature winding which comprising multi-strand stator as shown in figure 2.

As to **claim 5**, Kawamura et al. fails to disclose the stator it is a flat packet stator.

However Kikuchi et al. teach a stator lamination packet as shown in figure 12 and 19.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kawamura et al., Kirschbaum, and Pleiss by use a stator lamination packet as taught by Kikuchi et al. to provide advantages with regard to round rolling, machining, and lacquering efficiency.

As to **claim 6**, Kawamura et al. fails to disclose wherein coils side of the stator winding are shaped and adapted to a groove.

Art Unit: 4113

However Kikuchi et al. disclose wherein coil side of the stator winding are shaped and adapted to a slot contour as shown in figure 12 and 13.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kawamura et al., Kirschbaum, and Pleiss wherein coil side of the stator winding are shaped and adapted to a slot contour as taught by Kikuchi et al. to provide different number of turns and a compact stator winding to meet specification on motor.

As to **claim 7**, Kawamura et al. teach a three phase armature winding as shown in figure 6.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (5,231,324), Kikuchi et al. (6,236,583), Kirschbaum (4,476,422) and Pleiss (4,675,591) as applied to claim 1 above, and further view of Tiarks (3,600,619).

As to **claim 2**, Kawamura et al. disclose a first coil arrangement in which one coil sides of each pole winding in a phase following a first phase shifted from one another by an electrical angle of 60 degrees are laid in the slots between the inner most coil sides and the third coil arrangement being the same as the first coil arrangement (Column 5, line 10).

Applicant refers to a three phase $m=3$, which means that the offset third coil and the first coil is 60 degrees.

However Kawamura fails to disclose direction opposite from the first direction.

Art Unit: 4113

Tiarks discloses a third coil angularly adjacent to said second coil and wound in said one rotative direction with one leg in a third of said stator slots located adjacent to said second stator slot, said third coil partially lapping said first and second coils (Claim 10) and including three identical winding patterns of twelve series connected, successively oppositely wound coils (Column 1, Line 69).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kawamura et al. Kikuchi et al, Kirschbaum and Pleiss by use coil on direction opposite from other as taught by Tiarks to provide excellence generating characteristics at the same time a compact stator winding.

As to **claim 3**, Kirshbaum discloses a first coil in each of said coil groups has a number of turns which differs from the number of turns of the other coils (Claim 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE A. GONZALEZ QUINONES whose telephone number is (571)270-7850. The examiner can normally be reached on 1 st week Monday to Friday 7:30 AM to 5:00 PM and 2nd week Monday to Thursday 7:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott B. Geyer can be reached on 571-272-1958. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 4113

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOSE A GONZALEZ QUINONES/
Examiner, Art Unit 4113
February 26, 2009

/Scott B. Geyer/
Supervisory Patent Examiner, Art Unit 4113